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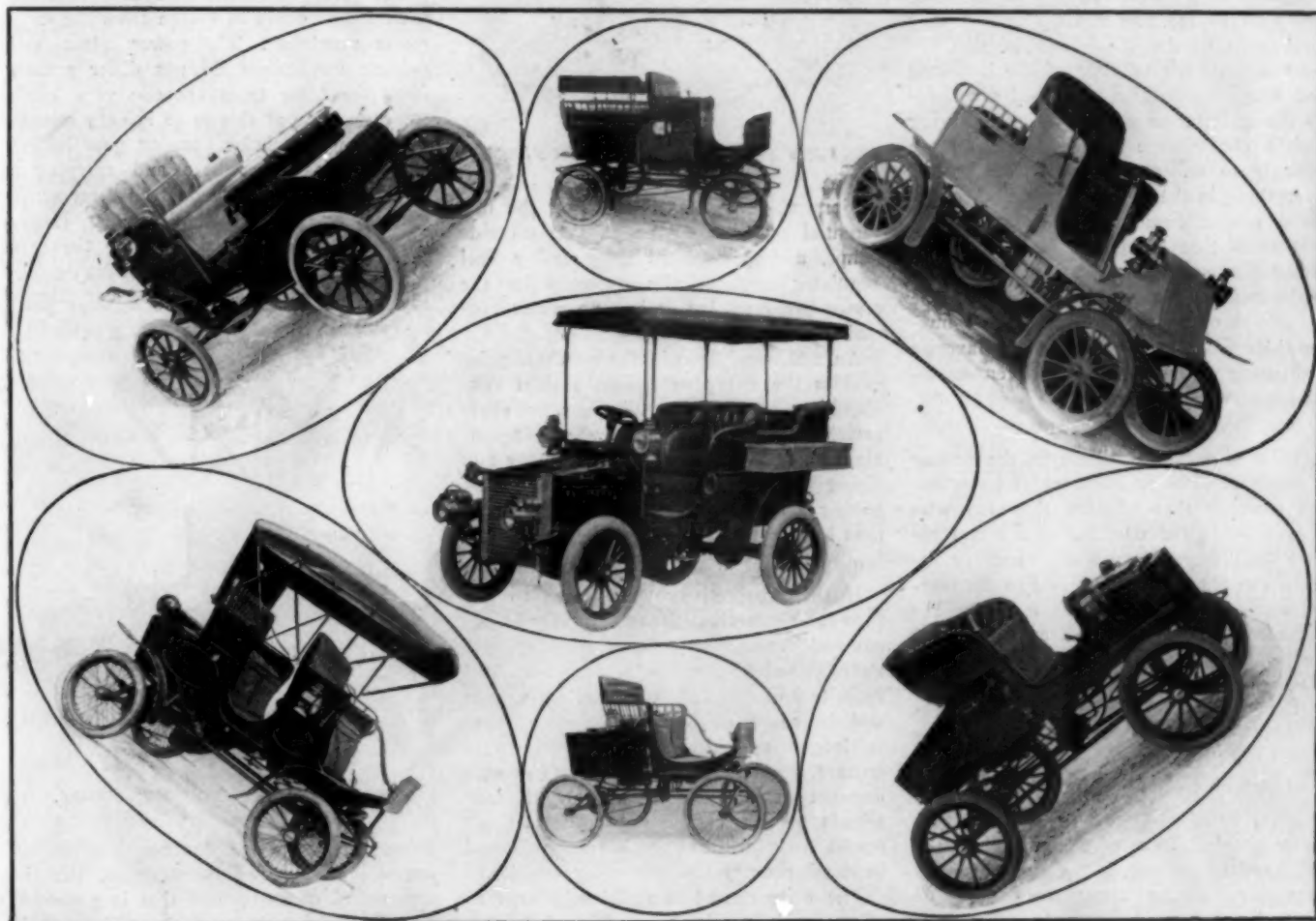
American Steam Pleasure Vehicles of 1903

A Great Variety of Styles and Types from the Light Runabout to the Tonneau Touring Car Are Offered to the Prospective Purchaser at Moderate Prices.

FANCIERS of steam driven automobiles who prefer this power because of its silence, its "understandability," its dependability and that quality known as flexibility, which permits the user to employ power in exact proportion to the

needs of the occasion, as in starting gently or in climbing heavy grades, are offered a wider range of types and styles this year than ever before. Although the number of manufacturers of steam vehicles has not increased during the last three years,

those that are marketing this class of machine have constantly endeavored to satisfy the most exacting demands, and even to anticipate the wishes of probable purchasers by bringing out new and novel styles designed for all the purposes to



GROUP OF TYPICAL MODERN AMERICAN STEAM VEHICLES SEATING FROM TWO TO SIX PERSONS.

which a pleasure carriage is put and to meet every requirement that a purchaser and user reasonably could have. Thus the market to-day affords a choice of light and heavy runabouts, with and without tops and dos-a-dos, light and heavy open and



MOBILE NARROW GAUGE RUNABOUT.

touring cars, light and heavy open and covered surreys, cars with folding front and dos-a-dos seats, carriages with condensers, box front cars, wagonettes, and steam machines with engines at the front covered with metal bonnets, and even very heavy cars with exceedingly luxurious tonneau bodies so closely resembling the popular foreign type of gasoline touring car as to defy distinction except by the expert. So cleverly have the constructors adapted the most popular features in the design of body and running gear for gasoline cars to the power plant and driving mechanism of the steam vehicle, that the most enthusiastic admirer of the imposing and luxurious touring car need not forego the satisfaction of owning and driving such a car because he wishes even more strongly to adhere to steam as a power. Everything in the way of simplicity, safety, speed, power, durability, comfort and luxuriousness that is offered in the internal combustion engine car can now be obtained in the steam vehicle, which continues to be the choice of a great many who are buying their first automobile and the favorite with many others who have driven steamers for several seasons.

WIDE RANGE OF PRICES.

Quite as wide a latitude in the matter of purchase price as in choice of styles exists now, so that whether the man who is considering the selection of a steam vehicle feels disposed to spend much or little he can almost certainly find in the market some machine that will meet the requirements both in the matter of price and preference in style, or at any rate the compromise between them which he will effect in the privacy of his own mind. Thus he can buy a simple little runabout for \$550 or a handsomely upholstered steam tonneau with canopy top for \$2,000.

SIMPLEST AND CHEAPEST RUNABOUT.

The simplest form of steam vehicle, the well known runabout, is a very handy carriage for running about town and for short distance use on good roads. The first cost is low, expense of operation and

cost of maintenance are moderate; it will travel at good speed and is an excellent hill climber.

The lowest priced vehicle of this class can be purchased for \$550. It is of very light construction, yet heavy enough for ordinary purposes. The boiler is of the shell fire tube type, steam being generated by an ordinary pan gasoline burner. The engine is of single acting, two cylinder marine type and drives by chain to the differential, which is attached to a divided axle and is supported in a tubular trussed framework. The front axle, also trussed, is connected to the rear tubular axle by means of tubular steel perches, so connected as to permit a certain amount of flexibility in the running gear. Wire tension wheels fitted with 2½ or 3-inch single-tube pneumatic tires are used. A plain spindle-seated body is mounted on two full elliptic springs at the rear and a single transverse elliptic spring in front. Center lever steering is employed, direct connected to the front wheels. The tread or wheel gauge is 50 inches. The vehicle has all essential



CENTURY BEVEL-GEAR DRIVE RUNABOUT.

equipment, including a brake on the differential operated by pedal, two oil side lamps, a foot actuated gong and a fuel regulator automatically operated by the steam pressure, but it has no water regulator.

An additional \$100 in the purchase price enables the buyer to choose a light runabout possessing generally similar characteristics but having a very flexible running gear that protects the machinery and piping from injurious twisting strains, and having a combination fire tube and water tube boiler.

CHOICE WIDENS WITH INCREASED PRICE.

If the prospective owner cares to pay \$750 for his carriage the field rapidly broadens and he can secure a steamer of greater strength and weight, with which goes added security and comfort, improved appearance and increased efficiency. The wheel base is longer and the width of tread increased, features that contribute to greater comfort in riding and permit all four wheels to run in the rails of street car tracks and in the smooth tracks formed in rough country roads by other vehicles.

The price named is sufficiently large to effect a change in ownership of a new steam road carriage of 5 horse-power of

substantial construction having the engine and all working parts entirely enclosed in an oil-tight and dust-proof casing that effectively protects them against mud and dust. The engine is of the upright single acting, double-cylinder type having broad wearing surfaces in the bearings that contribute to smooth running, perfect lubrication and long life.

One \$750 runabout is unique in having bevel gear drive instead of the usual center chain. A shaft with bevel pinions transmits the power from the engine to a bevel gear on the differential at the middle of the rear axle, and as this shaft and all the gears are enclosed, there is no danger of breakage on account of dirt getting into the teeth and lubrication is required but rarely.

Most of the \$750 machines have flexible running gears built of very heavy tubing and equipped with strong wire suspension wheels. Direct connected steering is usual, with either center tiller or side lever.

Almost any single seat carriage can be secured fitted with a folding buggy top for \$50 extra, and experience will soon prove the amount to be well invested. Side curtains and storm aprons should go with them, the combination affording excellent protection against rain, wind and mud.

THE HEAVIER ROAD CARS.

Several manufacturers are offering at a list price of \$800 steam cars that are radical departures in design from the early steam runabouts. The power plant and driving mechanism do not differ greatly from the older types but one very handsome machine at this price is very strongly built with tubular running gear having a very long wheel-base and carrying a large and roomy body on transverse semi-elliptic springs over both axles. Heavy wood wheels are fitted, and the tires are 3½ or 4-inch size. Many desirable features are possessed by a road car that is



MOBILE BUGGY TOP RUNABOUT.

being sold at \$900. Among these is an engine of improved construction, that is economical of steam and that is powerful enough to drive the machine at high speed. The carriage is built with a view to dura-



LANE CAR WITH PERMANENT VIS-A-VIS FRONT SEAT.

bility as well as to attractiveness in design and finish.

DOS-A-DOS AND VIS-A-VIS SEATS.

Most of the two-passenger steam runabouts are adapted to take a detachable dos-a-dos seat which rests on the top of the body at the rear with its back against the back of the permanent seat and has a foot-board that hangs down at the rear of the body. Such an auxiliary seat costs usually \$25, and doubles the seating capacity of an ordinary two-passenger runabout except on hills and in heavy going, where the increased load may overtax the power of the engine and capacity of the boiler. Several of the latest models of steam road wagons, however, are especially built with folding dos-a-dos seats and have the power plant enlarged and the entire vehicle built stronger with a view to the frequent carriage of four passengers on long trips over ordinary hilly country roads. Such cars, however, retail at \$1,000 or thereabouts. They have wood wheels, strong running gears and heavy bodies, the complete vehicle weighing about 1,200 pounds.

A very different method of arriving at the same end has been adopted by two manufacturers who have designed their carriages with permanent tete-a-tete seats, the regular seat being placed well back toward the rear axle and a smaller seat de-

signed to accommodate two children or one adult, being built over a box front facing the operator's seat. Both seats are upholstered alike but the front seat has no back, a polished metal rail taking its place.

its automatic water feed and fuel pumps. Its list price is about \$600. The other machine is a heavy car with the more conventional boiler, engine and driving mechanism but of very original and attractive body lines. In addition to the two seats, it has a large curved front arranged for the storage of clothing and supplies when touring; the wheels are of the artillery pattern, four full elliptic springs support the body on the strong tubular running gear, and continuous fenders extending from the step, over both wheels protect all occupants from splashing mud. The rear seat has a high and thickly upholstered back, contributing greatly to comfort. Side lever steering is used and the equipment includes two oil side lamps. The finish is superb, equaling that on the finest equipages. The price is \$1,065.

CARS WITH CONDENSERS.

Steam carriages with condensers have long been built on the other side, but until



METEOR ROAD CAR WITH STORAGE SPACE IN FRONT.

One of the machines so built is a light car of $4\frac{1}{2}$ horse-power that has attracted much attention because of its other novel features of a horizontal engine hung in the plane of the axles and direct connected by spur gearing to the differential, and of

recent years this subject has received but little attention in this country. The advantages of the condenser are, undoubtedly familiar to the majority of readers, but it may not be amiss to state for the benefit of those who are giving their attention to the subject of automobiles for the first time, that the condenser makes it possible to travel long distances without replenishing the water supply, the water from which the steam is generated being used over and over again. The condenser also largely if not altogether eliminates the visible exhaust. Several American manufacturers are now building steam carriages fitted with this valuable feature, which is one of the most important improvements ever made in the steam vehicle. As it adds considerable to the cost of the car, however, the condenser is fitted only to the higher priced vehicles.

The first American carriage that was offered to the public so equipped as a regular model was a strong and well designed Stanhope weighing 1,200 pounds and listing at \$1,200. The condenser was a tubular affair with disc flanges resembling



METEOR HEAVY CAR WITH FOLDING DOS-A-DOS SEAT.

the tubes of a radiator on a gasoline car, was rectangular in shape and about 2½ by 3 feet in size. It was suspended vertically at the front of the vehicle, hanging from the foot-board or dash downward as far as the front axle. Machines so

steam vehicle makers had, up to a year ago, followed very closely. The chief feature of novelty is a folding seat over the front axle that affords additional seating capacity for two. In order that the operator of the car may have an unobstructed view

is 72 inches and the tread 56, which is the standard wagon gauge. The boiler is provided with a very ingenious patented downdraft arrangement that carries the products of combustion downward regardless of whether the engine is running or not. The burner is also of special construction, made in one piece and fitted with a pilot light.

CONVENIENCE OF PILOT LIGHT.

The manufacturers of this carriage were among the first, if not the very first, to fit pilot lights to automobile burners. Now all of the higher priced steam carriages have burners with pilot lights. This device is a valuable addition as it permits firing the burner without the use of a detached vaporizer which must be heated each time the burner is turned out. The pilot light is first started by allowing a small quantity of gasoline to flow into a little drip cup below the vaporizing coil. This gasoline is lighted with a match and the flame generating sufficient heat to vaporize the liquid gasoline within the coil above the cup. When sufficiently heated the vaporizer burner valve is opened, after which the pilot becomes self acting. It will then quickly heat the main burner vaporizer, the valve of which may then be opened. When the vehicle is left temporarily, the main burner may be turned out and the pilot, being left turned on, will generate sufficient heat to maintain steam pressure in the boiler for immediate starting, and at the same time keeping the main vaporizer hot enough to fire the burner when desired by merely turning its valve.

Another steam carriage that possesses many very desirable features may be bought for \$1,200, and, fitted with an ingenious



TOLEDO HOODED FRONT CAR WITH CONDENSER.

equipped made such remarkable showings in endurance and reliability contests in this country and in England that wide attention was attracted to the new feature, which was promptly imitated by other makers.

RESEMBLE GASOLINE MACHINES.

Instead, however, of placing condensers on the runabouts and Stanhopes of earlier design, the resemblance of the condenser to the radiator caused the manufacturers to adopt other features in design of the hydro-carbon car. Thus there are at least three 1903 steam cars that have bodies very closely resembling the bodies of gasoline road cars and tonneaus, with hoods having condensers fitted in their front ends.

The lowest price at which such a machine is offered is \$1,200, but, besides having a condenser, this car is very strongly constructed of the best materials, having a flexible tubular running gear, artillery wood wheels fitted with 3½-inch detachable tires, body carried on four full elliptic springs, a semi-flash boiler of large steaming capacity, and a strong engine whose cranks and other working parts are encased. A long wheel-base of 76 inches contributes greatly to easy riding, which is made still more comfortable and delightful by the excellent upholstery of the broad seat. The wheel tread is 54 inches, which, measured from center to center of the tires, permits the wheels to run in street car tracks without injurious friction of the sides of the tires against the rail flanges. The differential, like the engine, is enclosed in a dustproof casing.

CAR WITH FOLDING FRONT SEAT.

Another \$1,200 car that attracted much notice at the last Madison Square Garden show, is a wide departure from the earlier conventional carriage forms which

of the road, this seat is placed considerably below the level of the rear seat and the front end of the body is brought forward and downward at an angle to a point just above and in front of the front axle and has a hinged footboard that when open makes a roomy and comfortable place for the feet. The front seat also has a high upholstered back that when not in use can be folded down to form the top of a box front.

This car has tubular perches, wood wheels, large tires, enclosed working parts, air and water pumps worked by steam and



HOFFMAN HOODED FRONT ROADSTER WITH WHEEL STEERING.

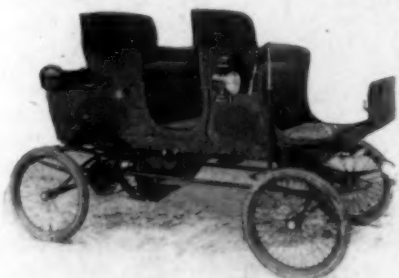
independent hand actuated emergency pumps. The regular equipment includes leather fenders over all wheels, two oil side lamps and a small lamp to illuminate the water glass at night. The wheel-base

folding seat, for \$1,275. This vehicle closely resembles a gasoline runabout. It has wheel steering, side operating levers, and an attractive hinged bonnet in front. The frame is very heavy and heavy artillery

wheels are mounted on unusually large bearings. A carriage of this type, in addition to presenting a novel appearance, possesses many special advantages for touring or heavy road work.

THE POPULAR SURREYS.

The surrey has for a very long time been one of the most popular styles of horse-



MOBILE LIGHT SURREY, ENGINE COVERED.

drawn carriage for family use, and it has proved equally popular as a power vehicle. It affords comfortable and safe seating room for four or five persons, all facing forward, and as the seats are all within the wheel-base, which is necessarily long, there is an easy motion in riding that is entirely free from vertical jolting and from disagreeable side swaying.

A light surrey fitted with light wire wheels, 3-inch tires and having the engine protected from mud by a leather apron can be purchased for \$1,275. Such a vehicle, while not intended for touring, is very handy for family use in city or country. The mechanism is of conventional form—fire tube boiler, double cylinder engine, pan-burner, and side lever steering.

A heavy surrey of similar style but suitable for touring and equipped with a folding top covering both seats and having side curtains and storm apron, is offered for \$1,950. Ample fenders cover all wheels. The entire running gear is much heavier than in the previous model, the tires are

A heavy surrey, without top, of very attractive design, low hung body and long wheel-base, that is well calculated to withstand the hardest usage over all sorts of roads has been put on the market for the season of 1903 by a reputable company at \$1,528. A top on the same car would bring the retail price up to \$1,600. It is of very substantial construction, the frame being very heavy and having wood wheels fitted with large tires. The body is unusually long, giving plenty of room for the legs and feet—a matter by no means to be lightly considered in the purchase of any car—and has capacious storage place of novel and pleasing design in front of the dashboard. The seats are high backed, wide, and, therefore, comfortable, and they are finely upholstered. The boiler is under the rear seat and the engine entirely below the floor of the body. All of the machinery is encased. The finish throughout is equal to that on the finest equipages



MOBILE HEAVY SURREY, WITH TOP.

and the equipment is of the best, including leather fenders, acetylene headlight and two acetylene side lights.

HEAVY STEAM TOURING CARS.

Few heavy steam touring cars had been designed until the present season, but there is a growing demand for vehicles of this

steam vehicle. The general features include a box front, disappearing rear seat, extra heavy wood wheels with large diameter double tube tires, wheel steering, long wheel-base, encased motor and additional brakes. A vehicle of this class, in common with heavy gasoline cars, is provided with a steel frame which supports the boiler, and, in fact, the entire power plant. The trussed front and rear axles so familiar in all steam vehicles are retained, but the parts are much heavier than usual, while additional braces are provided where considered necessary. A 16-inch boiler supplies the two cylinder engine with superheated steam. The burner is fitted with a pilot light. Steam driven air and water pumps are fitted and the capacity of the water and gasoline tanks is materially increased over that of the lighter cars. The vehicle is controlled entirely from the seat, including the burner regulation, air and water pumps. The wheel steering mechanism is built on the interlocking or irreversible principle, a desirable feature in heavy vehicles. The additional hub brakes also add materially to the factor of safety. A carriage of this type certainly leaves little to be desired for efficiency, comfort, durability, or appearance.

SIX-PASSENGER WAGONETTE.

An entirely new and very pleasing style called a wagonette and designed to accommodate six persons has been produced for this year. It is an exceedingly compact and graceful vehicle and despite its large capacity is very light and easily handled. Its distinctive characteristics are in the body, which has two longitudinal seats back of the operator's seat arranged tete-a-tete. Ingress to these seats is from the rear of the vehicle. To give a better balanced appearance to the body and to reduce the weight, the rear seats are of the spindle type, with lazy-backs. A box front of graceful design affords considerable storage space for parcels. Although wire wheels



GROUT FOLDING SEAT, DROP FRONT CAR.

larger and the boiler and engine develop greater power. The seats are provided with very high backs, heavily upholstered, making this altogether an exceedingly pleasant and comfortable vehicle to ride in all day long in fair weather or in foul.



LANE CURVED FRONT HEAVY SURREY.

class. When weight is not limited great improvements in mechanical details are possible, as well as added luxury of appointments. The \$1,600 dos-a-dos steam car illustrated is an interesting example of the perfection of design possible in a heavy

are used, hub brakes are fitted, as a matter of safety on account of the heavy loads the wagon is intended to carry. By becoming the owner of such a vehicle, at a cost of \$2,000, a man can give pleasure to half a dozen persons at a time, taking his en-

tire family out for an afternoon ride, if he has not been too ambitious a pater familias, or, if he is an eligible bachelor, treating five young ladies to a ride simultaneously, thereby multiplying, possibly, his chances of early beoming a benedict.

NEW CONVERTIBLE TONNEAU TYPE.

Very recently there has been brought out a heavy steam touring car built so nearly on the lines of the gasoline convertible tonneau as almost to defy distinction except upon rather close inspection. It has the artillery wheels, reachless running gear, semi-elliptic springs and pump handles, angle iron body frame, side drive chains, hood, sloping rear body portion and the wheel steering of the regulation type of hydro-carbon car. The boiler is carried under the hood, at the front of which is a condenser. The engine is disposed horizontally beneath the floor and is very powerful. It drives to a counter shaft which carries the differential and drives to the rear wheels by side chains.

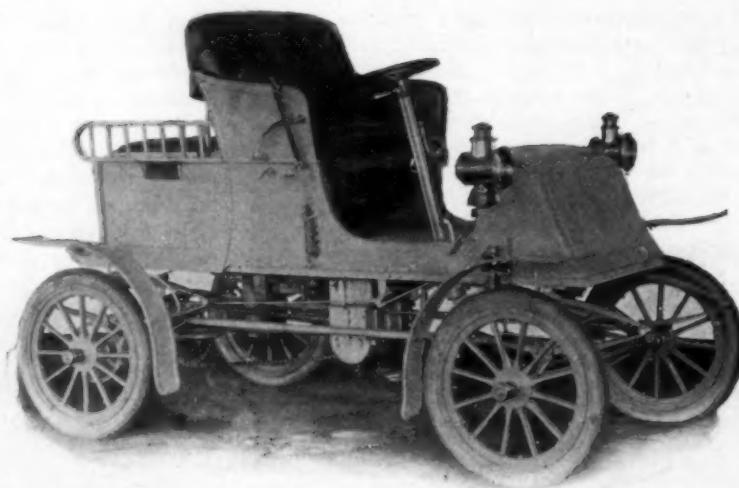


LOCOMOBILE SIX-PASSENGER LIGHT WAGONETTE, WITH BOX FRONT.

All of the machinery is protected by a casing of sheet metal. The car is controlled almost entirely by the two hand wheels on the steering post. The tank capacity is unusually large, the water tank holding fifty-three gallons and the fuel tank fifteen. The price of this novel car is \$2,500. Its weight is 2,250 pounds. It can probably attain a speed of forty miles an hour.

ACME OF STEAM CAR LUXURY.

Without doubt the most remarkable steam pleasure car that has yet been placed in the market and one that has won the instant admiration of all who have seen it and increased that of those who have ridden in it, is a big, luxurious steam driven tonneau, in which features now common to heavy gasoline touring cars have been adopted so far as seemed desirable. It is a most handsome car and thoroughly efficient in speed and power, and strong and durable enough for long distance touring.



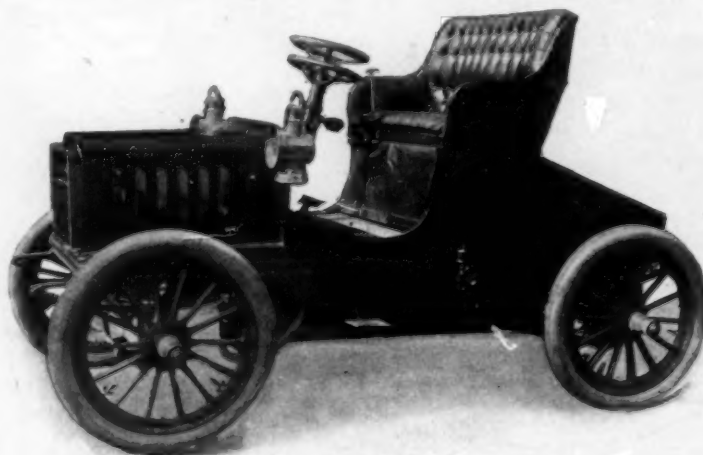
LOCOMOBILE DOS-A-DOS ROAD CAR, WITH WHEEL STEERING.

It is driven by a compound engine of 10 horse-power carried at the front under a large metal hood of pleasing design, hav-

type, which will not burn out nor explode and which rarely becomes leaky. Both cylinders of the engine can be fed for a short time with steam at full boiler pressure should extra demand be made upon the power in climbing a sharp ascent or in extricating the car from deep mud or sand. The drive is by direct shaft with universal joints to the differential on the rear axle, as in the most advanced gasoline cars. So efficient is the condenser that the radius of travel of the machine on one filling of the water tank is practically unlimited. In operation the car is almost absolutely noiseless, there is no visible exhaust, and the passengers are not annoyed in the slightest degree by vibration from the engine.

The wheel-base is 80 inches—probably the longest of any steam car in the market—and the tread 56 inches. Steering is by hand wheel, the tires are detachable and of very large size, the machinery is all enclosed, powerful hub brakes are fitted, and the wheels are covered with broad leather fenders.

This car seats four persons, is most durably and comfortably upholstered, is equipped with two large acetylene headlights and two oil side lamps, and a French horn with flexible metal tube. Extra fit-



GROUT HOODED WHEEL-STEERING HEAVY ROAD CAR, WITH CONDENSER.

tings include canopy top and side hamper, as shown. Nothing is left undone, in fact, to provide the acme of efficiency and comfort in this, the highest type of steam automobile, at a price of \$2,350, comparing favorably with any tonneau car in the market.

Electric Wheel Chairs at World's Fair.

A concession to operate 2,000 electric wheel chairs at the St. Louis Exposition has been applied for. An exhibition chair has been in operation for some time, and it is understood that the concessionaire is giving its adoption careful consideration. The chair is geared to a speed of three miles an hour. A continuous sensitive guard rail is provided, which, when it

A Discussion of the Gasoline Runabout for the Novice.—I.

BY A. D. RIVER

An automobile is a nine days' wonder to the novice, but soon becoming familiar with its mechanism, he too often graduates from a state of extreme humility to one of indifference, or actual neglect. Following at first the maker's careful instructions with slavish regularity he now ignores them altogether, retarding his spark when the motor pounds for want of oil and supplying a new battery to recover power sacrificed to a pitted exhaust valve.

It is the purpose here to consider the general features of a modern gasoline runabout, telling something of the whys and where-

connected by light perches, while in several examples the springs are longitudinally placed at each side, connecting the front and rear axles, the carriage body being fastened to the flattened top surfaces of these springs. More commonly double elliptical springs support the body at front and rear. Wood or tubular spoke wheels have practically superseded wire wheels.

DETAILS OF CONSTRUCTION.

The horizontal engine considered typical of light vehicles only a year or so ago has radically changed. Not only has it been greatly simplified, but in addition many important improvements have been made. The secondary or jump spark method of ignition has superseded the make-and-break or primary system, and in a number of instances the battery has given place to dynamo or magneto. The old make-and-break spark was reliable, but the fact that a moving contact passing through the cylinder walls was required, proved to be a serious disadvantage on account of mechanical and lubricating difficulties. Varying the time of ignition could not be accomplished with such facility under the old system as when the jump spark method of ignition is employed. One distinct advantage of the make-and-break spark is the low tension of the ordinary primary current, but improvements in insulating materials have much reduced the short circuit bugbear of the high tension secondary method. The secondary ignition spark is not a single "flash," but should be a series of intermittent sparks of great intensity.

Although the inlet valve is usually opened by atmospheric pressure, due to a partial vacuum caused by the receding piston, there is a present tendency to adopt the mechanically opened inlet valve. This construction entails the use of a cam (similar to the customary exhaust cam) which opens the inlet valve at a definite period of the cycle. It is closed in the usual manner by a spring. Were it not for the additional mechanism required the mechanical inlet valve would probably be universally adopted because it opens quicker and stays open longer, permitting a larger charge being drawn into the cylinder. Thus the motor will develop somewhat more power than when fitted with the ordinary atmospheric valve. The inlet valve usually is made of cast iron.

The exhaust valve is always opened by means of a gear driven cam and closed quickly by a heavy spring. The burnt charge of gas, escaping through the exhaust port, concentrates the heat there, so the exhaust valve is usually made of nickel or nickel steel, metals well selected to prevent warping and pitting. Although a



WHITE BEVEL GEAR DRIVE STEAM TONNEAU, FULLY EQUIPPED.

comes in contact with any object, shuts off the current and applies an electric brake, stopping the chair. Operators who also act as guides, may be hired, or patrons may drive alone if they prefer. The chair, which is the invention of S. S. Scott, is being exploited by the Electric Chair Co., of St. Louis.

Secretary W. L. Smith, of the Automobile Club, of Pittsburg, has prepared a list of all the owners of automobiles in Pittsburg who are not members of the club, and has sent copies to all the club members with the request that they try to bring them into the fold. The club membership is limited to 300, but there may be a waiting list. The club has adopted an emblem and plans are being considered for a permanent home. The committee on legislation is working in harmony with the city councils in an endeavor to secure the passage of a local automobile ordinance that will promote the best interests of all concerned.

fores and giving a hint or two that, perhaps, may prove valuable to the reader.

Details of construction vary so much that it is not possible to consider all vehicles in a single class, and the discussion must therefore apply to general features and facts.

The term light gasoline runabout refers to a type of automobile that has virtually become an exclusively American product; originally by adoption, in a sense, and in later years by remarkable native ingenuity and progress.

THE GASOLINE RUNABOUT.

This distinct type is usually fitted with a horizontal motor, the motor itself frequently forming the supporting frame for the transmission mechanism. This entire equipment is built into the carriage body or supported on a frame to which the body is attached. A formal running gear has been practically abandoned. Either the two axles are altogether independent or con-

pitted exhaust valve is one of the most common automobile engine troubles it is usually the last to be discovered by the novice.

The cylinder is always made of cast iron with hollow walls. The annular space forms a water jacket, the water circulating through this hollow space, keeping the temperature down and thus preventing the lubricating oil from burning, which would increase the friction to such a degree as to render the motor inoperative. The inside of the cylinder is bored out in the most careful manner. A few manufacturers grind the interior of the cylinder to an even more perfect surface. The piston, which is also of cast iron, is "trunk" shaped, like a can with the lid off. It is turned to an easy fit inside the cylinder, and spring rings—usually three or four in number—are depended upon to hold the compression. These rings are turned from cast iron to a little larger size than the interior circumference of the cylinder. They are very thin and cut across diagonally. Square grooves, turned in the outside surface of the piston, receive these rings, which are tightly compressed while the piston is being put into the cylinder. When they are freed they naturally expand against the walls of the cylinder, making a tight joint without the use of packing or other material that would be impractical on account of the heat, etc. Before the piston is put into the cylinder the rings are spaced with their joints equi-distant. This is done to prevent the compressed gas from blowing past the joints. When correctly spaced the rings are usually held in position by pins. Sometimes this is not done, and then the joints may eventually get in line—compression is thus lost. Reference will be made to this source of trouble later on.

OPERATION OF THE CARBURETOR.

Carburetors work on the same principle as the familiar cologne atomizers. In other words, the carburetor is merely a tight can or vessel having a small suitably arranged orifice for admission of gasoline, and a second and larger orifice for the admission of air. A third aperture connects with the cylinder of the motor. Now, when the piston recedes, producing a partial vacuum within the cylinder, air rushes through the carburetor chamber with considerable force, and at the same time a small quantity of gasoline is also drawn in and intermingled with the air, thus forming a vapor, which is very explosive, or, more truly, inflammable. The interior of the carburetor chamber is usually fitted with baffle plates, against which the gasoline vapor strikes, thus making the mixture more nearly perfect. The more complete the mixture the more energy will it develop after its compression and ignition within the motor cylinder. Of course the level of the gasoline in the supply tank will have its effect on the amount of gasoline that passes through the small orifice into the carburetor chamber at each suc-

tion stroke, which, if not compensated for, would cause the motor to run irregularly. This difficulty is remedied by means of a float and small subsidiary reservoir. The motor is supplied from this small reservoir and, usually, a needle valve, operated by the float, admits a small quantity of gasoline from the main supply tank to the subsidiary reservoir when required. Thus the level of gasoline in the large tank cannot have any effect on the quantity of gasoline admitted to the carburetor chamber at each suction stroke. The carburetor mixture is thus always of the same richness and of equal explosive quality, so that the motor runs with regularity at all times.

TRANSMISSION GEARS.

Methods of transmission are usually of the planetary or sliding gear design. The former is the least complicated and the easiest to manufacture, and is quite generally used on light gasoline runabouts. The sliding gear transmission is more efficient and, generally speaking, permits a wider range of speed changes, so it is employed on nearly all medium weight or heavy gasoline cars. Planetary systems usually permit two forward speeds and reverse. They are very efficient on the high speed, but considerable frictional loss is sustained on the slow speed. Sliding gear systems permit three or four speed changes and reverse. They are also most efficient on the high speed, but do not entail so much frictional loss as the planetary gears do on the lower speeds. Considering light cars, the inherent defect of planetary systems is not, however, a serious one. The motor is always of sufficient power to drive up all ordinary grades, so that recourse to the second speed is not frequently required. The second speed is, therefore, geared very low in proportion, counteracting the frictional loss entailed. That is to say, when driving on the second speed the motor will develop not only sufficient power to overcome the loss in the transmission, but also enough to negotiate any grade. Heavy cars are geared to the limit on the high speed, so that frequent recourse to the second speed is required. The whole matter is a compromise at the best, and it is sufficient to state that nine out of every ten light cars are to-day successfully controlled by a planetary transmission system.

EARLY DAYS WITH A NEW CAR.

It will, of course, take some time and much careful thought to determine which particular runabout will best fulfill the requirements of the purchaser. If the manufacturer issues an instruction book—and many now do—a copy should be procured, and by the aid of its illustrations, diagrams and descriptions a careful study made before the vehicle arrives. If not already a reader, he should also subscribe to a high-class automobile periodical. Much very interesting news will be found in every issue and a wide variety of information.

When the new automobile is received and has been carefully removed from the crate a closer study of its construction may be made. Don't take anything for granted. Go into every detail. Observe particularly the action of the control levers, the steering mechanism and brakes. If a demonstrator or instructor is in attendance have him show you why a certain action produces a certain result. It is hardly sufficient that you should know merely that it does do it. Find out why. Thus you will soon be able to judge cause from result, and this knowledge is the most valuable of all. Go over the car carefully before your initial "spin."

The manufacturer may have been most careful in every particular; nevertheless a lubricator may have been left unfilled; a nut perhaps was not tightened properly; the brakes may not have been set just right. Go over every nut and bolt and prove to your own satisfaction that everything is as it should be. Vibration will often loosen the tightest nut, so it is customary to hold them from falling off by means of cotter pins or otherwise. This is a wise precaution and should be insisted upon. The steering mechanism and brakes should receive very particular attention. Be sure that there is no lost motion or loose nuts in any part of the steering gear, and that the brakes may be easily and firmly applied on pressing down on the foot lever. The means of adjusting the brake bands should be observed, as occasionally they will require adjusting. The hub caps should be removed to ascertain if the axle end nuts and lock nuts are properly tightened.

Having satisfied himself that the mechanical details are all in perfect adjustment, it is very necessary that the new owner should attend to the lubricating system with the utmost care. Heavy cars usually are fitted with oil and grease reservoirs that supply the various bearings by means of feed tubes. Runabouts, as a rule, are equipped with individual oil and grease cups. The covers of these should be removed and the cups filled if empty, as is frequently the case on a new car. The cylinder cup must be filled with a high fire-test mineral, gas engine cylinder oil and not vegetable or animal oil. Ordinary machinery oil would burn with the great heat and lubrication would be destroyed. There are a number of special gas engine oils on the market, and it is a good plan to buy a gallon or five gallon can for reserve, carrying on the machine a quart or so for immediate requirements. Keep this can always well filled. Remember that oil is just as essential as gasoline. For the bearings any good machinery oil is suitable, and it is well to have a reserve supply on hand, carrying a good-sized full oil can with you when on the road. An oiler with a long, slender curved spout will be found very useful. If no suitable carrying space is available the spout may be unscrewed

and a cork fitted to the can. If grease cups are provided it is an easy matter to procure a five-pound box of suitable grease, which should be not too thick to feed the bearings properly. In many instances motors, in addition to cylinder oil cups, are lubricated on the "splash" principle. That is to say, the crank chamber is partially filled with gas engine oil which is thrown into the cylinder by the action of the crank. It is very necessary to keep the crank case supplied, in this event, always with a reasonably fresh charge, the old oil being drained off before the new is poured in. A small cock is provided at the bottom of the case for this purpose, and care must be taken to always close this cock before renewing the supply. This caution may seem superfluous, but forgetting to close this cock is, nevertheless, a very common error. Never fill the crank chamber too full; otherwise the oil will work its way into the combustion chamber, fouling the spark plug, gumming the valves and causing much unnecessary trouble.

AMERICAN TEAM MAKING FAST TIME OVER CUP COURSE.

Special Correspondence.

CLEVELAND, June 22.—A special cablegram from Charles B. Shanks to a local daily states that Alexander Winton, Percy Owen, L. P. Mooers, Shanks and the other Americans in the colony who will attempt to capture the Gordon Bennett cup, have leased quarters in Kildare. The members of the team have been taking regular practice spins over the course during the past three days, and are making themselves rapidly acquainted with it. Mr. Winton especially is making fast time, but he is being closely pushed by Mr. Owen, whose machine is developing marvelous speed. Mr. Winton sped over the course to-day at a 1:10 clip, which is faster time than any member of the American team has yet made it. The Americans are greatly pleased with the course, and declare that when the time for the race arrives they will be better acquainted with it than any of the members of the foreign teams. The Americans devote more time to practice than the Europeans, although the French team, at times, show superior speed.

[As excessive speed in practice over the course before the race has been absolutely prohibited, the foregoing indicates either that such prohibition has been raised, that it has become a dead letter, or that more reliable reports should be awaited.—Ed.]

Literally Speaking.

"One of these days we may expect to have airships take the place of the automobile."

"What of our universal good roads, then?"

"You don't expect an airship to fly, do you?"

Marvellous Driving in Oldfield-Cooper Match Race at Indianapolis.

Both Contestants Break Five-Mile Record and Intrepid "Barney" Places Mile Figures Under the Minute—Goes Five Miles in 5:04 3-5.

Special Correspondence.

INDIANAPOLIS, Ind., June 20.—All world's track records from one to five miles inclusive were broken here to-day by the intrepid Barney Oldfield, in his "999," in the second heat of his match race with Tom Cooper, of Detroit, at the State Fair Grounds.

The event was run as a pursuit race, although Oldfield expressed a willingness to run the machines side by side. Cooper started at the half-mile post and Oldfield at the wire. During the next five minutes one of the wild machines dashed past the grandstand every 30 seconds at a speed of more than a mile a minute, while the crowd stood breathlessly expecting any moment to see one of the drivers dashed into eternity. Oldfield's first mile was done in 59¾ seconds and as soon as the judges realized what had happened the good news was announced to the grandstand. Intense excitement reigned in the press box and among the officials of the race meet. Then every eye was riveted on the watches to catch the time of the second mile, which was made in 1:00 4-5. Oldfield's machine was fairly flying through the air. He rounded the turns with a recklessness which did not characterize the driving of Cooper. His machine seemed to leap from one side of the track to the other, as he made the turns. A negro policeman thought it was up to him to see that everyone kept off the track. Cooper had just passed and he attempted to walk across the track in a leisurely manner. There was a cry from the judges' stand but it did not reach the ears of the policeman, whom Oldfield missed by a hair's breadth.

COOPER WAS FORGOTTEN.

Cooper was forgotten for the moment. Every eye followed Oldfield, for the crowd felt that indescribable thrill of anticipation that another world's record was to be broken before the race was ended. The daring driver sped on, past the eighth pole in record breaking time, past the quarter, the half and the three-quarter, then under the wire and he had gone another mile in 1:01 3-5. There was another burst of applause from the grandstand; then the glasses again were leveled on the flying machines. It was evident that Cooper would stand no show because he did not hit the turns in the track right. His machine seemed to pause momentarily, as he approached a turn and this little loss of time probably cost him the race.

It was evident that Oldfield was out to win. The lives of the operators were in their hands and the crowd appreciated this

exhilarating sport. In the judges' stand men waved their hats and acted like wild men.

CROWD GOES WILD.

"It costs me a hundred to have Barney do this," one of the men remarked, "but I would have cheerfully given a thousand had I ever thought such remarkable speed could have been attained." And he meant it, too. Others were slapping one another on the back and laughing like children. And "Barney" was coming in on the home stretch. Long before he had passed under the wire, however, the reporters had figured that the world's five-mile record had been broken for the second time during the day. Then old "999" sped under the wire in the remarkable time of 1:00 4-5 for the last mile. The total for the five miles, 5:04 3-5, was then announced, with the records for the intermediate miles. Hundreds of spectators left their places in the boxes and rushed to the track, where they surrounded Oldfield and overwhelmed him with congratulations. Then the champion, who had surpassed himself, was led to the judges' stand and introduced to the crowd. Hats were thrown in the air and the fair grounds echoed and re-echoed with cheers for Oldfield. Then Cooper was introduced and greeted warmly for his part in the race.

The crowd was large and the track all that could be desired. Society filled the boxes and lined the course on either side of the grandstand. Weather conditions were perfect and the race was voted the success of the season.

Oldfield was greatly pleased over his performance and said to a representative of THE AUTOMOBILE:

"Well, I knew I would do it sooner or later, and was aware that I was doing it at the time, for the machine never went smoother and slid less. I will predict that I will do five miles in five minutes or less before the season is over. I am glad to hear that Cooper also broke Winton's record."

THE TIMES AUTHENTIC.

The race was run under the rules of the American Automobile Association and the records made are official. The watches were watched closely by the press representatives, and several prominent men of the city, among whom is Mayor Bookwalter, attested that the time given out was authentic.

Tom Cooper was also in fine form and came within a second of equaling the best previous record, as he covered his miles

in 1:02 2-5. He also beat the previous five-mile record held by Winton, as he covered the distance in the first heat in 5:24 and in the second in 5:18. He remarked a few days ago that Oldfield would have to break the world's record to beat him.

FISHER WINS TRIANGULAR RACE.

Interest in the other races centered in the five-mile race between Maurice Darango, of New York, on his Peerless; Elmer Apperson, of Kokomo, on his Apperson; and Earl Fisher, of Indianapolis, with the Winton. The race was won by Fisher, with Apperson second, and Darango third. Darango led in the first mile with Apperson second, and Fisher third. Gradually Fisher crept on his rivals and finally rounded them all. The fight then was between Darango and Apperson, and a prettier contest has seldom been seen. It was Darango at the quarter, Apperson at the half, Darango at the three-quarters and Apperson home in the lead. The result was in doubt until the end, when the two dashed under the wire scarcely a length apart.

KISER WINS FIRST RACE.

There were several other interesting races, but they faded into insignificance compared with the big match race and the close contest in the five-mile race just mentioned. The first race was between Earl Kiser, of Dayton, in a General racing car; Frank Moore, in his Oldsmobile; and Joe Moore, in his Winton. Kiser won easily in 8:41. On the fourth lap, the flag was hoisted and Kiser, who was in the lead, pulled up, preparing to stop. The Olds machine shot past him before he realized that he was only on the fourth mile. He then opened up again and as the machines came down the stretch he was on even terms with his competitor. Then he forged ahead and won by about twenty yards.

MOTOR CYCLE RACE.

The second event was a three-mile motor cycle race. It was won by Bert Corbett, a local boy, who had a quarter-mile handicap, and won easily in 5:06 1-5. Henry Brandt, the scratch man, finished second, and Harry Howe, third.

FRIDAY RACES ON WET TRACK.

Rain interfered with Friday's races, and although a good crowd had faced the driving storm, they were greatly disappointed at finding the track so slippery that the big cars coming down the track at high speed almost reversed themselves as they skidded from one side to the other.

The feature of Friday's events was the third race, in which Earl Fisher, in Dr. Hodge's Winton; Elmer Apperson, in his Apperson, and Maurice Darango, of New York, in Dr. Jameson's Peerless, took part. Fisher won the race easily. He got at least thirty seconds the worst of the start, and in making the turn lost ground, but when the back stretch was reached, began to gain, and was soon abreast of the other cars. Fisher's time for the five miles was

7:29 3-5. Apperson finished in 7:39 1-5, and Darango brought up the rear in 7:55.

In the first race Earl Kiser's "Pirate" got the decision over Dixon's "Little Scow" by two-fifths of a second in a hair raising finish. Kiser did not drive, but allowed Frank Wood, a local man, to handle the machine.

NO MORE RACES ON FAIR GROUNDS.

Charles Downing, Secretary of the State Board of Agriculture, announced Saturday night, that there will be no more automobile races at the fair grounds, which means no more in this city. His reason is that the tremendous noise made by the machines "frightens the horses to death." There are several thoroughbreds quartered at the track, and he says that the animals positively refuse to eat anything on account of their fright. It is hoped that Mr. Downing can be prevailed upon to change his mind in this regard.

SUMMARY OF SATURDAY'S RESULTS.

The results of the two days' racing were as follows:

Five-mile open race for gasoline machines in the 1,500-pound class—Earl Kiser (General) first; Frank Moore (Olds) second; Joe Moore (Winton) third. Time, 8:41.

Three-mile motor cycle handicap—Bert Corbett, ¼-mile handicap, first; Henry Brandt, scratch, second; Henry Howe, third. Time, 5:06 1-5.

Five mile race for heavy gasoline cars—Earl Fisher (Winton) first; Elmer Apperson (Apperson) second; Maurice Darango (Peerless) third. Time, 7:45 2-5.

Five-mile match race, first heat—Barney Oldfield (Ford-Cooper racing car) first; Tom Cooper (Ford-Cooper racing car) second. Time, 5:17 2-5. By miles—first, Cooper, 1:04, Oldfield, 1:06; second, Oldfield, 1:02 2-5, Cooper, 1:04 3-5; third, Oldfield, 1:02 2-5, Cooper, 1:04½; fourth, Oldfield, 1:02 3-5, Cooper, 1:04 3-5; fifth, Oldfield, 1:04, Cooper, 1:06 3-5. Cooper's total time, 5:24.

Five-mile match, second heat—Oldfield won. Time, 5:04 3-5. Times by miles—first, Oldfield, 0:59 3-5, Cooper, 1:04; second, Oldfield, 1:00 4-5, Cooper, 1:04½; third, Oldfield, 1:01 3-5, Cooper, 1:03½; fourth, Oldfield, 1:01 4-5, Cooper, 1:02½; fifth, Oldfield, 1:00 4-5, Cooper, 1:03½. Cooper's total time, 5:18.

Five-mile open handicap—Elmer Apperson (Apperson) 30 sec., first; Earl Kiser (General) 50 sec., second; Maurice Darango (Peerless) 40 sec., third; Earl Fisher (Winton) scratch, fourth. Time, 7:18 3-5.

SUMMARY OF FRIDAY'S EVENTS.

Five-mile race for gasoline machines weighing less than 1,200 pounds—Frank Moore (Olds Pirate II.), first; H. V. Dixon (General) second; Horace Wilcox, third. Time, 9:16.

Two-mile motor cycle race, 1:50 class—Harry Weller, first; Harry Miles, second. Time, 4:10.

Five-mile race for gasoline machines of 25 horse power or less—Earl Fisher (Winton) first; Elmer Apperson (Apperson) second; Maurice Darango (Peerless) third. Time, 7:28 2-5.

The Long Island Automobile Club has decided not to run its contemplated race meet at Brighton Beach until October, when all the owners of fast machines will have returned home.

GROWING USE OF AUTOS THREATENS CLEVELAND'S LIBERAL LAW.

Special Correspondence.

CLEVELAND, June 22.—If Cleveland dealers keep on selling automobiles at the rate they have been doing during the past few weeks, the city license clerk will soon be dealing out four-figure numbers for each automobile instead of three, as at present. Number 900 was placed on a new machine a few days ago, indicating that that number of tags have been issued since Alexander Winton drew No. 1. There are probably more than 900 automobiles in use in the city, for several persons have two or more machines and change the license number from one to another. This practise is common with dealers and manufacturers who try out new machines. There are still a few people who have failed to take out licenses, but it is dangerous delay, as the police are vigilant for those who violate the automobile ordinance.

There is considerable talk that the council may decide to change the present automobile ordinance as regards the matter of speed in the residence districts of the city. At present a speed of eighteen miles an hour is permissible, except in the downtown business district, where the limit is eight miles. Eighteen miles an hour is thought by many to be too fast a clip for a 2,000-pound car. As the tendency very frequently is to exceed this limit, there is grave danger that unless great care is exercised by all operators, this limit may be cut down. Cleveland probably has the most liberal ordinance of any large city in the country, despite the fact that there are more automobiles in proportion to the population than in any other center.

Kiser and Fisher Racers Ready July 1.

The two monster racing machines that are being built for Carl Fischer and Earl Kiser by the Mohawk Cycle Co., in Indianapolis will be completed about July 1. It is believed they will be the most powerful cars ever built in the United States. Each has four horizontal cylinders of seven inches bore. They have two forward speeds and one reverse gear, but the mechanism is so arranged that when it is desired to go against time the slow forward speed gear and the reverse gear can be removed to save weight. They are fitted with compensating gears and will have mufflers attached so that they can be driven safely through the streets under their own power to the tracks. Although built after the same general design, they differ in many minor details and will be raced in competition.

The city council of Leipzig, Germany, at a recent meeting, passed an ordinance prohibiting the use of automobiles in most of the streets of the inner city, and in other parts allowing them to be driven only along those streets which are traversed by electric cars.

Pacific to Atlantic by Automobile.

Special Correspondence.

SAN FRANCISCO, June 20.—Starting from the Cliff House before dawn this morning, E. T. Fetch, of Jefferson, Ohio, and M. C. Krarup, of New York, left San Francisco to make a transcontinental trip in a 12-horse power, single cylinder Packard touring car of regular model, but with tonneau seats removed. New York City is the objective terminus of the 3,000-mile tour, which is undertaken with the purpose of demonstrating the ability of the American moderate powered automobile to negotiate the all but impassable mountain and desert roads and trails of the Far West.

With the knowledge that difficulties of the most serious kind are to be met, and that a number of similar attempts have been made and abandoned, the tourists have provided themselves with a camping outfit and some materials for making repairs on the road.

The route chosen lies through Port Costa, Sacramento and Placerville, in California; Carson City, Reno, Wadsworth and Winnemucca, in Nevada; thence to Salt Lake, Green River, Glenwood Springs and Denver. When they left here no route had been selected eastward from Denver, though the general plan is to pass through the larger cities.

The machine is geared low, and has been provided with an extra gasoline tank holding six gallons. Provision has also been made to nullify the effect of high altitudes on the fuel.

The travelers are equipped with scientific instruments for recording grades, altitudes, directions and distances, and with a camera. It is planned to gather data regarding the route that will be of value to future transcontinental motorists.

It will be remembered that this feat was attempted two years ago by Alexander Winton and Charles Shanks, of the Winton Motor Carriage Co. After crossing the Sierra Nevadas, supposedly the greatest barrier on the route, they became stalled in the sands of the Great Desert, and were forced to give up. Mr. Winton stated after his failure that he believed the trip could be accomplished by taking another route, and with the aid of the experience gained on his first trial, he expected eventually to accomplish the feat. Latterly, however, his attention has been turned to racing, and he has made no attempt to repeat his undertaking. The progress of the Warren man will doubtless be watched with interest by enthusiasts.

Special Telegram.

PORT COSTA, Cal., June 20.—The Packard overlanders, Messrs. Fetch and Krarup, who started from San Francisco at 3 a. m. this morning, reached Oakland at 6 p. m. and Port Costa at 8.15 to-night. The last half of the day's trip was through picturesque rough hills that required the use of

all the gears and the brakes. The last three miles was a steep, winding descent through a gulch. They arrived just as night was falling. They will start in the morning, and expect to reach Sacramento to-night.

MOTOR CYCLIST REACHES MARSHALLTOWN FROM 'FRISCO IN 30 DAYS.

George A. Wyman started from San Francisco on the afternoon of May 16 to ride to New York on a California motor bicycle. His route was to Sacramento, then over the Sierra Nevada Mountains to Reno, Nevada. From Reno he rode to Humboldt, then to Battle Creek and to Ogden, Utah, riding over the cross-ties of the railroad nearly all the way, the sand of the Nevada trails being too deep for him even to trundle his machine through it for more than a few yards at a time. Leaving Ogden he crossed the Rockies to Cheyenne, Wyoming; arriving there June 5. From Cheyenne his route was via Egbert, Wyoming; then through Pine Bluffs, Kimball, Sidney, Ogallala, Maxwell and Kearney, Nebraska, to Omaha, which he reached on June 11 after riding most of the distance from Cheyenne over the cross-ties of the railroad.

Just thirty days after starting, Wyman rode into Marshalltown, Iowa. The Iowa and Illinois roads are reported to be in bad condition from the continuous rains during the past month, as the roads are largely of "blue gumbo" clay. Whether Wyman ultimately succeeds in riding his machine all the way to New York or does not, his ride from San Francisco to Marshalltown, Iowa, on a 1½-horse power motor cycle in thirty days, considering the decidedly unfavorable conditions, is in itself a remarkable record.

Dr. Jackson Reaches Pocatello.

Dr. H. Nelson Jackson, of Burlington, Vt., who started from San Francisco on May 23, in a 20-horse power Winton touring car, accompanied by a Mr. Crocker, in an attempt to make the trip from the Golden Gate to New York Bay, had reached Pocatello, Idaho, before June 15. He is making the trip ostensibly as a private owner, and as an undertaking of his own for his own satisfaction. From his progress so far it is thought likely that he will get through.

Proposes to Try in a Runabout.

About the first of June a regular stock Oldsmobile was shipped from the Lansing, Mich., factory to F. N. Whitman, of San Francisco, who proposed to try to make the transcontinental trip in the machine, believing that a light runabout such as the 5-horse power Olds will be able to cross the sands that have proved the barrier in

several former attempts. Whitman proposes to start with the rear wheels in the waters of the Pacific and to stick to the big undertaking until the Atlantic halts his eastern progress. His route lies through Utah and Colorado, and he proposes to carry a message from the Mayor of San Francisco to Mayor Low of New York.

Hearing on Washington Case Postponed.

Special Correspondence.

WASHINGTON, D. C., June 20.—The hearing in the test suit brought by Carl J. Lockwood, an automobile dealer, against the District Commissioners to enjoin them from enforcing the new automobile regulations, has been postponed from June 18 to June 25. The Commissioners informed the court that their side of the case was not ready for trial, and asked for a postponement, which was granted.

A number of complaints have been registered during the last few weeks with the municipal authorities against the Automobile Storage & Repair Co. for maintaining a livery stable in a block where it had not secured the consent of 75 per cent. of the residents. Finally the case was taken into court, a warrant having been sworn out against Manager Weston. The Automobile Storage & Repair Co. recently erected a fine building at 1319 L street, where owners of automobiles could store their vehicles, and it is against this place that complaint was made. When the case was tried counsel for Manager Weston made the contention that the establishment in question did not come within the provisions of the law, for the reason that the place was in no sense a livery stable, neither horses nor vehicles being kept there, nor were the automobiles stored there for hire. After consulting authorities, the court dismissed the case against Mr. Weston. Counsel for the government then gave notice that he would apply for a writ of error that he might carry the case to the Court of Appeals.

Miss Roosevelt Not an Owner.

It is stated in Washington that the electric automobile in which Miss Alice Roosevelt is frequently seen has not been purchased by her. The machine was sent to Miss Roosevelt by an automobile agent with the request that she make use of it, and it was intimated that the big machine could become her property if she would accept the gift. The President not only refused to allow his daughter to accept the auto, but further insisted that the usual rent should be paid for it. He has not yet decided whether or not the vehicle shall be permanently added to the White House equipment.

About 2,500 licenses for machines under the new automobile law have been issued at Trenton, N. J. It is estimated that one-half of the vehicles are owned in that State and most of the others in New York and Philadelphia.

Winton Repudiates Races With Fournier.

Under the signatures of James Butler, president, and Alfred Reeves, secretary, of the Empire City Trotting Club, a statement has just been issued to the effect that on the verge of sailing for the other side Mr. Winton stated "that he did not have any races arranged with Fournier, and that Mr. Shanks had no authority to act for him in any track races with the French operator." As a result, all hope of holding the first race July 25, has been abandoned and the management of the Empire City racetrack has decided upon other attractions for the scheduled meet on that date, which "will be conducted upon an even greater scale than the May 30 competitions."

In explanation of the much discussed contract, the statement says that "recently, before sailing for Ireland, Winton stated to A. G. Batchelder, the American representative for Fournier, that Shanks was not acting with his direction and he (Winton) did not have any races on with Fournier." Recently Shanks also sailed for the other side and failed to notify the Empire City track anything definite concerning the series.

"The history of the Fournier-Winton negotiations began with the arrival of Fournier just previous to the automobile show. The Frenchman issued a challenge to try speed with any American driver, and an immediate response came from Cleveland, signed by Charles B. Shanks, as follows:

"If track event can be arranged after Gordon Bennett, Mr. Winton will accept Fournier's challenge, and will name conditions upon his arrival in New York, on Saturday. You may so announce."

"Among the conditions enumerated by Mr. Shanks, and dictated by Mr. Winton, was that the contest should not take place earlier than July 25, distance at twenty-five miles, race to be of the pursuit order for a silver trophy, and to take place on the Cleveland track.

"Fournier agreed to the stipulations, except that he insisted that the first race should take place on a neutral track, naming the Empire City track, and agreeing to contest a second race at Cleveland. If a deciding contest was necessary, he was willing that the choice of track should be decided by the toss of a coin.

"Mr. Winton's representative stated that everything was satisfactory except that the third race, if one was necessary, should take place on the track whereon the fastest twenty-five miles had been made. Fournier accepted the amendment, signed the articles prepared by Secretary Reeves, of the Empire City track, to which were also attached the names of W. G. Pollock, president of the Cleveland track and Mr. Shanks for Mr. Winton, the latter failing to visit Madison Square Garden on the closing night of the show. Mr. Shanks

told about fifteen newspaper men in the press room that he had come direct from Mr. Winton with full authority to sign.

"A letter sent to Mr. Winton by Fournier's representative, April 7, did not elicit the courtesy of a reply, and on the occasion of the International Cup trials at Garden City, Mr. Winton, in the presence of S. M. Butler, of the Automobile Club of America, absolutely declined to discuss the matter with Secretary Reeves."

The many friends of Messrs. Winton and Shanks are awaiting with the greatest interest the explanation of their side of the matter which is expected from the other side.

MILWAUKEEANS REBEL AGAINST LAW REQUIRING BELLS.

Special Correspondence.

MILWAUKEE, June 20.—A fight is on between the city authorities and those automobilists who persist in ignoring the seemingly senseless parts of a city ordinance regarding the operation of motor cars that is being enforced here. Thus far it has resulted in the arrest and conviction of John H. Robinson, colored operator, who was propelling a car equipped with a horn instead of the gong bell required by the peculiar measure. Although the horn was fully as effective as any ordinary bell or gong even in the opinion of the assistant city attorney who conducted the prosecution. Robinson was found guilty and was fined \$25 and costs, amounting in all to \$32.40. This was paid by the man's employer. C. G. Norton, a local automobile dealer.

A short time ago the city attorney announced his intention of starting a campaign of enforcement of the ordinance. Assistant City Attorney George Ballhorn, who has charge of the automobile fight, says he will favor a change of the ordinance as requested by automobilists, but until such a change is made, the measure will be enforced.

The ordinance which has been the cause of the trouble was adopted in 1902, having been recommended to the council by the committee on judiciary. The ordinance limits the speed of automobiles and motor cycles to eight miles an hour in the city of Milwaukee, which must be reduced to four miles when turning corners and crossing intersecting streets and alleys, and the vehicle must be kept to the right when in motion and observe all the rules of the road laid down for all other vehicles. Section 2 of the law, against which motorists rebel, provides that every automobile, motor bicycle and motor tricycle driven on the public highways "shall be equipped and supplied with an alarm bell or gong, and the same shall be sounded at all street crossings and whenever else it is deemed advisable by the operator of such vehicle to be sounded for the purpose of notifying

pedestrians or others, of the approach of such vehicle." It is also explicit in the requirement of efficient brakes and lighted lamps.

Automobilists say they will persist in the use of the horn, though most of them will equip their machines with bells of one nature or another to conform with the provisions of the law until it is changed.

City Attorney Carl Runge differs with his assistant regarding the intended application of the ordinance, holding that the clause requiring the use of bells is merely intended to call for the use of something capable of giving a satisfactory warning, whether it be a bell, gong or horn. He does not concur in the movement to prosecute automobilists on the technicality of the measure. The matter has created considerable stir among the owners of machines, and a committee will wait upon the council soon to ask for the amendment of the law on this subject.

AUTO CLUB OF MEXICO FORMED WITH FIFTY CHARTER MEMBERS.

Special Correspondence.

MEXICO CITY, June 15.—The Automobile Club of Mexico has been formed here with a charter membership of fifty. The total number of proprietary members is fixed at eighty, each one of whom pays \$600 for his share, which will give the club a capital of \$48,000, represented by eighty shares. A clubhouse will be erected at Chapultepec Park, where the members and their families can meet. Facilities for charging electric automobiles, furnishing gasoline, and attending to small repairs will be afforded and ample space for sheltering automobiles while their owners are at the clubhouse will be provided.

The club will give especial attention to the betterment of roads, particularly in the environs of the city, and as it already counts among its members some of the most prominent government officials, it will undoubtedly be of great service in this direction.

In making the new rules governing the speed for automobiles and prescribing the conditions under which they shall be allowed to run, in the city and suburbs, the Governor of the Federal District has taken into careful consideration the recommendations of the automobile club. Every automobile is to be inspected and licensed and every user of one must pass an examination before receiving his permit.

The officers of the Automobile Club of Mexico are: Honorary President, Jose y Limantour; Active President, Pablo Escandon; Vice-President, Francisco Suinaga; Treasurer, Javier Algara; Secretary, Charles L. Seeger. Additional directors are Fernando de Teresa, Ramon Corona, Rafael Bernal, C. Gordon Paterson and Jose de Jesus Pliego.

Grand Rapids, Mich., has 75 automobiles, representing the product of at least 20 different manufacturers.

Boiler Inspector Enforces State Law.*Special Correspondence.*

MINNEAPOLIS, June 20.—Up to to-day 256 automobile owners have taken out the state license.

The council appointed a special committee some time ago to consider automobile legislation, and several conferences were held with owners. The owners were anxious to have a local measure adopted, but the committee did not seem able to get together on anything. So State Boiler Inspector Steele stepped into the breach and informed the automobilists that they would have to comply with the state law. Where there is a local registration law the owner is exempt from compliance with the state license law. Almost every Minneapolis automobile now bears a large number at the rear.

The result of the enforcement of the state law was a little surprising, as it has shown that there are more automobiles in Minneapolis than was supposed. As some have not yet been rounded up by the inspector, it is safe to say that the total number is 300.

Novel Scheme in Effect in St. Paul.*Special Correspondence.*

ST. PAUL, June 17.—State Boiler Inspector R. H. Johnson has begun a crusade against motor cycles and automobiles that have not been licensed in accordance with the act passed by the last legislature.

Birney B. Bird was one of the first to suffer. He had taken out a motor cycle for a trial and left it standing on a corner. The inspector came along and seeing that it did not have a number, he proceeded to attach his official seal to it.

An auto belonging to Mrs. V. Craig, a prominent resident of St. Anthony Park, was found on Summit avenue with no number visible. A seal was also placed on it and the owner was compelled to hunt up the inspector and explain that a license had been taken out but the number had not yet been put on. There is a heavy penalty for breaking the seal, and this compels the owners to get busy immediately as the machine cannot be started without breaking the seal.

Club Organized in Norfolk.

The Automobile Club of Norfolk, Va., was organized on June 17, at a meeting held in the office of H. H. Trice, which was attended by many enthusiastic owners of motor pleasure vehicles. There are about twenty-five owners in the city now, and the number is growing almost daily. Officers were elected for the ensuing year as follows: President, W. S. Royster; vice-president, Dr. Walter J. Adams; secretary-treasurer, J. Ray Collins. These, with Dr. Lomax Gwathmey and H. H. Trice, will constitute the executive board. Messrs. Royster and Collins were appointed a committee on constitution and by-laws. Other committees will be appointed later.

Correspondence**Only This and Nothing More.***Editor THE AUTOMOBILE:*

SIR: There are no more automobiles here. A colored boy; 500 gallons of gasoline; an open ten-gallon can of same; five automobiles; one naked flame lamp. These ingredients became mixed. Result: one scorched and badly scared darky; one heap of ashes; some badly twisted metal fragments. No insurance. No more automobiles. No nothing. That's all.

LOUIS H. AYMÉ.

Consular Service, U. S. A. Guadeloupe, W. I.

The forgoing humorous letter was received in response to a request addressed to U. S. Consul Louis H. Ayme, concerning the public automobile service which had been established in Guadeloupe, West Indies. Many of our readers will recall that Mr. Ayme rendered most valuable service in the work of carrying relief to the survivors of the fearful catastrophe, following the eruption of Mt. Pelee, in Martinique last year.—Ed.

Automobiles and the Law.*Editor THE AUTOMOBILE:*

SIR: In view of the fact that the fact that the automobile is just now prominently before the public as a business and pleasure vehicle, it will be of interest to review recent court decisions on the law of the road.

A street or a road is in law a public highway, and as such belongs to the public and to all the citizens thereof, and all have the right to travel thereon by their own selected modes of conveyance, whether it be as foot passengers, bicycle, ox-team, a four-in-hand, or an automobile. (Coombs vs. Purrington, 42 Me. 332; Barker vs. Savage, 45 N. Y. 196; Commonwealth vs. Temple, 14 Gray 74).

It is now well settled that a bicycle is a carriage, and as such has an equal right to the road with all other carriages, no more no less.—Ladd vs. Allen, Supreme Court New Hampshire, 1881.

When a traveler goes upon the public roads, the law presumes that his carriage is in such good roadworthy condition as to make it fit for the journey which he undertakes, and if by the neglect of the proper care which a prudent man would give to his carriage or harness, it breaks and thereby causes damage to an innocent traveler, the offender may be held to answer in a suit at law. (Welsh vs. Lawrence, 2 Chitty, 262).

The law has never yet undertaken to restrain citizens from constructing their private vehicles in the manner best suited to their individual tastes, or to give to any form of private carriage any rights or privileges superior to those of any

other form, provided the form is not such as will injure the roadway.

It has even been held lawful to operate a steam traction engine on a roadway, notwithstanding it was urged that horses had been frightened by it.

The drivers of horses have no more rights in streets or carriage-ways than those using other common modes of conveyance, and the mere frightening of horses is neither actionable as a tort nor complainable as a nuisance, nor an obstruction which city officers or public boards are accountable for. —(Macomber vs. Nichols, 74 Mich. 212; Moses vs. Pittsburg, etc., 21 Ill. 522; Cook vs. Charleston, 98 Mass. 80; Stone vs. Hubbardston, 100 Mass. 50; Keith vs. Easton, 2 Allen, 552; McFarland vs. Brown, 1 Bicycling World, 27).

To say that a new mode of passage shall be banished from the streets, no matter how much the general good may require it, simply because streets were not so used in the days of Blackstone, would hardly comport with the advancement and enlightenment of the present age.—Moses vs. Pittsburg, etc., R. R. Co., 21 Ill. 522.

JOHN C. HIGDON.

St. Louis, Mo.

A Steam Vehicle Advocate.*Editor THE AUTOMOBILE:*

SIR: I have driven my steam runabout over one thousand miles this season without any breakdown or stop, and think I am especially favored. We have a country place in southern New Hampshire, fifty miles from Waltham, Mass. I made the trip up there, over some of the worst roads and steepest and longest hills I have ever seen, in three hours and forty-five minutes. The return trip took three hours and ten minutes.

Before purchasing the auto, I was strongly in favor of a gasoline carriage of the explosion engine type, but every mile I ride in my steamer convinces me that for a small expenditure the steamer is far ahead in nearly every respect.

GLEASON WOOD.

Waltham, Mass.

A. C. A. Members at Gordon Bennett.

Among prominent members of the Automobile Club of America who are touring in Europe and who are expected to attend the Gordon Bennett race in Ireland on July 2 are Mr. A. R. Shattuck, president of the club; Colonel John Jacob Astor and Messrs. Clarence Gray Dinsmore, J. Howard Johnson, Courtlandt Field Bishop, David Wolfe Bishop, Charles J. Glidden, Lloyd Warren, John A. Hill, W. K. Vanderbilt, Jr., B. M. Baruch, Isaac L. Rice and M. D. Chapman. Four members of the club will be competitors in the race. These are Alexander Winton, Percy Owen and L. P. Mooers, of the American team, and Foxhall P. Keene, of the German team.

THE AUTOMOBILE

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SATURDAY, JUNE 27, 1903.

GORDON BENNETT RACE.

In the coming week, the Gordon Bennett race will be run and won—by America, we hope. Our team is on the ground and is going in to win. Should its members fail, the winner will have greater cause for rejoicing than ever before, for he will have come in ahead of the "Yankees." Any man who can do that is entitled to a more than ordinary share of credit. It will be a battle of the giants, and through the length and breadth of the cosmopolitan world of sport its results will be awaited with intense eagerness. Among the outside public, too, there is vastly more interest in this contest than in any of the three years since the cup was donated by James Gordon Bennett. The fatalities that resulted from the uncompleted Paris-Madrid have attracted the attention of countless numbers of persons to automobile racing, thousands of whom have doubtless never even seen a motor car. There are scores of newspaper editors who are eagerly awaiting fresh stories of disaster next Thursday, so that they may have the exquisite pleasure of writing "I told you so."

Sportsmen are glad to learn that the precautions for policing the course are as perfect as management can make them, and reports from Ireland on the condition of

the road are favorable. The final selection of contestants has been made and here is the list of names and machines:

American Team (Red)—Alexander Winton, Winton car; Percy Owen, Winton car; Louis P. Mooers, Peerless car.

English Team (Green)—S. F. Edge, Napier car; Charles Jarrott, Napier car; J. W. Stocks, Napier car.

French Team (Blue)—Rene de Knyff, Panhard car; Maurice Farman, Panhard car; Ferdinand Gabriel, Mors car.

German Team (White)—Baron de Caters, Mercedes car; Foxhall Keene, Mercedes car; Herr. Jenatzy, Mercedes car.

Apparently the only matter for regret in connection with the race is the enforced change in the Mercedes cars, caused by the fire at the Canstatt factory, which destroyed the three specially built Gordon Bennett machines. This, however, may not put the German team at a disadvantage. The members, we understand, will drive cars of 60-horse power instead of 90-horse power, as originally planned, but the former type proved the most effective in the recent Paris-Madrid.

LEGISLATIVE REFORM.

There is no work ahead of the motorists of the country more important than the agitation to secure uniformity in the State laws governing the use of the automobile on highways. No matter how just or liberal the laws enacted by the several States may be, and some are neither the one nor the other, the multiplicity of laws is objectionable and practically unworkable. There is bound to be a conflict between the provisions of laws enacted by states without any reference to one another, and with the continual increase of this class of special legislation the situation becomes absurd. One of the principal advantages of the automobile is the facility with which the owner can make long trips or tours that will at some time or another take him across the line of his home state.

From a common sense standpoint, it is a little short of ridiculous that, say, 100 feet on one side of the line he can travel at a certain rate of speed, with identification letters or numbers on his machine of a given size and color, and that 100 feet on the other side of the line such a speed would be illegal and his sign in violation of law. It could hardly be argued that the safety of other road users was assured by the regulations on one side of an imaginary line, and was jeopardized on the other side by exactly the same procedure on the part of the motorist.

A direct comparison can be made with the Federal rules and regulations which govern the handling of vessels in the navigable waters of the United States. What applies to the handling of a ship in Chesapeake Bay, for instance, applies also to the same vessel in the port of New York or San Francisco. One can readily imagine what an uproar would be created among the marine interests if it was pro-

posed to make one set of regulations for the North Atlantic ports, another for the Gulf ports, still another for the Pacific Coast, and so on. The men who advocated it would be set down as incompetents, or fit subjects for the insane ward. Yet the same thing practically is being done on land, and the protests of motorists have been feeble.

Now there are signs that an awakening to the absurdity of the situation is taking place. The American Motor League, the American Automobile Association and the National Association of Automobile Manufacturers are taking action to secure the passage of uniform laws. Up to the present, however, they have shown no signs of joining hands in the movement. To hope for immediate results this is an absolute necessity, and we urge on all organized bodies of motorists the need for co-operation and unanimity of action. If motorists are not of a mind as to what their rights are, as to what constitutes a fair set of regulations applicable at all times and in all places, how can they expect the inexperienced legislators to know? Before any real reform can be hoped for it will be necessary to prepare a measure which shall be submitted to and approved by the great mass of motorists of the country and will have their united and whole-hearted support.

SELLING PRICE AND SUNDRIES.

What should the selling price of an automobile include? This seems a simple question. It is easier to ask than to answer, however, judging by the differences of opinion of various manufacturers when their offerings to the prospective purchaser are considered. Many builders believe that the price should include only the vehicle as it stands when passed through the shops ready to run. Others seem to believe that the price should include certain fittings, some of which are absolutely necessary to the operation of the car by the purchaser. These include mud guards, lamps, bells, horns and storm aprons. No intelligent person is likely to make the mistake of supposing that any manufacturer supplies these extras free. Some one pays for them and the some one is, usually, the customer. This practice leads to much confusion in making comparisons between the prices charged for vehicles of the same type, sold by different builders, and these comparisons are sure to be made by the purchaser, especially the man who is buying his first car.

In the carriage trade with which, perhaps, a fair comparison can be made it is usual in the case of the more expensive vehicles to include lamps. As this is an almost invariable rule, it does not work to the disadvantage of any.

The question is one on which the manufacturers might "get together" with advantage, we believe, to everybody concerned. As matters now stand, a manufacturer who turns out a vehicle which represents high grade materials, skill in con-

struction, and thoroughly good finishing, cannot afford to throw in a miscellaneous lot of extras without reaching a prohibitive selling price. A manufacturer has to purchase the extras in the open market, and so has no means of working out economies in their production. He can no doubt economize by buying cheap goods that in the end will not do him credit.

It is to the interest of the manufacturer to let the dealer make a profit by the sale of sundries, for, outside of the larger cities, his profit on sales of machines is not always worth while. It is to the interest of the customer to pay for an automobile just what it is worth and after that make his own selection as to style and price of sundries.

The only exception to the foregoing is the "mud guards" which ought to form part of the equipment of every touring car when leaving the factory.

De Crawhez Wins Circuit des Ardennes.

The Circuit des Ardennes, the Belgian automobile race over a distance of 512 kilometers (318 miles), was run last Monday, June 22, and was won by Baron de Crawhez, according to cable reports which give his time as 5:52:07 3-5, more than one and a half minutes under the record of 5:53:39 3-5 made by Charles Jarrott last year. M. Girardot finished second in 6:24:29 1-5 and La Banond was third. Jarrott was put out of the race by tire troubles and W. K. Vanderbilt, Jr., though well up in the first round quit early in the second circuit, because of mechanical troubles.

Chicago Dealers Organizing.

Special Correspondence.

CHICAGO, June 20.—Fourteen of the twenty-three local automobile dealers were represented at a meeting held in the rooms of the Chicago Automobile Club last Wednesday night with the object of forming an association for the advancement of mutual interests. After an hour's discussion a resolution favoring organization was adopted, and a committee of five was appointed to draw up a constitution and by-laws to be submitted at a meeting to be held next Wednesday evening, when permanent organization will be effected and officers elected.

State Fair Races at Minneapolis.

Five days of automobile racing are to be run next week at the Minnesota State Fair track at Hamline, near Minneapolis, under the auspices of the Minneapolis Racing and Driving Club, in connection with the annual horse show and race meeting. The program is as follows: June 30, five-mile race for all machines; July 1, two-mile for cars selling at \$800 or less; July 2, three-mile for cars selling at \$1,500 or less; July 3, handicap pursuit race for all machines; July 4, mile trials for track record, open to all, and five-mile open motorcycle handicap.

Chicago Enjoined from Enforcing Law.

Special Correspondence.

CHICAGO, June 20.—The temporary injunction granted by Judge Haney restraining the city authorities from interfering with A. C. Banker in the operation of his automobile without a license, has been made permanent by Judge Healy, of the Circuit Court. The restraining order, which applies to all automobilists, is based on the grounds that the city ordinance is unconstitutional and is class legislation, the city having no authority to require a license and collect fees under the state law, and the imposition of such tax on automobilists and not on owners of other pleasure vehicles being in violation of the United States constitution. The city offered no defence against Banker's suit, a neglect believed to be due to delay of the city council in acting on the automobile ordinance now pending in that body to require the attachment of the license numbers to the backs of the automobiles.

The Chicago Automobile Club, as a result of whose action in suspending Mr. Banker from the club and asking the city to revoke his license for a term of thirty days because of Banker's violation of the South Park speed regulations, has now decided to take up the fight instituted by Banker against the rule recently adopted by the Park Commissioners requiring the placarding of machines with numbers five inches high.

As the park ruling requires the numbers on the machines to correspond with the number of the licenses issued by the city, and the injunction granted restrains the city from enforcing the municipal law, the same order practically nullifies the Park regulation. It is considered a great victory by local motorists, and of wide reaching effect, as it establishes a precedent that may defeat similar regulations in other cities and states.

MONTREAL RUN MAY BE CONDUCTED AS A TOURIST AFFAIR.

Negotiations in progress between the Contest Committee of the Automobile Club of America and the National Association of Automobile Manufacturers seem likely to result in a decision to make the proposed October run of the club to Montreal a pleasure tour of owners so that the manufacturers can all support the announced reliability run of the manufacturers' association to Pittsburg and make it a huge success. Details of the Montreal trip are being prepared and a very large entry list is anticipated.

The manufacturers will ask the clubs in all the cities along the route of the Pittsburg run, which will be by the roundabout way of Baltimore and Washington, to assist in making the affair a success by taking charge of the control arrangements in their respective towns. Some of the Cleveland manufacturers are desirous of having the contest continued to their city, which is the recognized center of automobile manufacture in the western hemisphere.

AUTO BUILDERS' CONGRESS TO BE HELD AT NIAGARA FALLS.

A congress of automobile builders now seems to be assured. A convention of superintendents and mechanical men of all large factories, represented in the Association of Licensed Automobile Manufacturers will likely be held at Niagara Falls next autumn, and possibly earlier. Factories are expected to send only their engineers, designers, inventors and superintendents of construction, who will make the trip to the meeting in automobiles. A feature of the meeting will be the examination of each car as it arrives. No doubt the assem-

bling of automobile manufacturers, according to this plan, will be of much value and general interest to the trade, as there will be a profitable exchange in views so far as competition in trade will permit.

EFFORTS TO SECURE UNIFORM LAWS BEING MADE BY A. A. A.

The American Automobile Association is planning a campaign to eventually secure more reasonable and uniform state legislation, governing the use of automobiles. It is not intended to make any radical move, efforts at first being confined to securing the insertion in each state automobile law of a reciprocity clause, so that an owner will be obliged to register his vehicle but once, carrying a single identification or license number. In order to increase the influences of the association, it is the intention to organize state divisions, through the concerted action of which it is expected that uniform legislation eventually will be secured.

The association is about to publish complete copies of the automobile laws of New York, New Jersey, Delaware, Pennsylvania, Massachusetts, Vermont and Rhode Island, and a digest of each for ready reference and comparison.

A small but very neat button has been designed for use by association members, and duplicates will soon be ready for distribution. The design represents a spur gear in blue enamel, surrounded by a gold frame or ring, the three A's, in red, crossing the face.

Every effort is being made to interest all automobile enthusiasts in the American Automobile Association, and copies of the constitution and by-laws are being sent out to clubs, manufacturers and agents. Most is expected from individual owners in building up the membership.

NEW VEHICLES

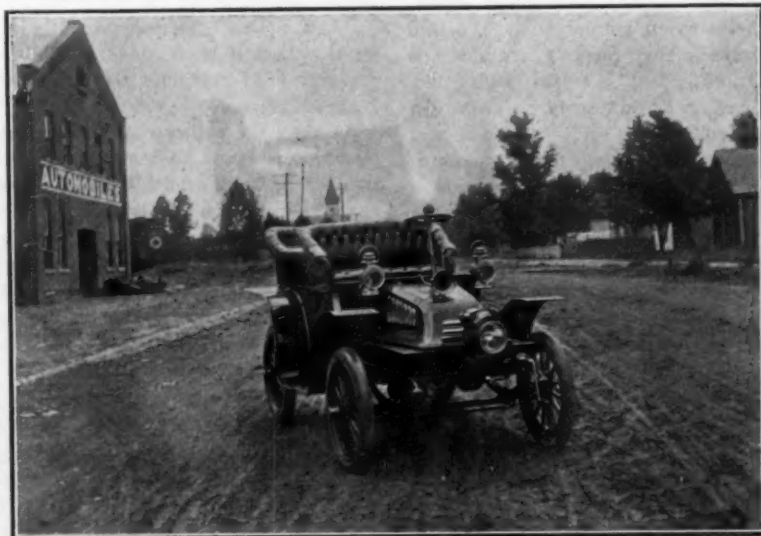
Haynes-Apperson Tonneau Car.

The new Haynes-Apperson tonneau car is now about ready for the market. The chassis of this vehicle was illustrated and

rings, which are bolted to solid hubs. The gears are shifted by a single side lever locking in a notched quadrant.

In addition to a foot brake operating on a drum fixed to the differential there are two internal band brakes on the rear wheels, operated by means of a hand lever, also equipped with a quadrant locking device.

The frame of this vehicle is of composite



HAYNES-APPERSON TONNEAU CAR, HORIZONTAL MOTOR IN FRONT.

briefly described in the May 16, issue of THE AUTOMOBILE. The completed vehicle shows a large well turned tonneau portion that comfortably seats three adults, while the front seat offers ample accommodation for two. The well shaped sloping motor bonnet adds much to the general appearance of the car.

Reber Gasoline Touring Car.

The Reber tonneau touring car, illustrated herewith, is driven by a 12-horse power, twin-cylinder vertical motor mounted in front, under a low sloping metal bonnet. Speed is controlled by means of a throttle governor, the action of which may be retarded by means of a small lever conveniently placed on the steering column. Ignition is by jump spark, a double battery of dry cells being used, one battery being held in reserve. Water is supplied from a 6-gallon tank placed forward on the dash. The circulation pump is friction driven from the fly-wheel of the motor. An unusually large radiator is mounted in front below the vehicle frame.

The transmission, which is of standard sliding gear pattern, permits three forward speeds and reverse. Outside chains drive direct to sprockets attached to the rear wheels, the differential being mounted on the countershaft and enclosed in the gear-case. The small sprockets are attached to short shafts mounted in fixed bearings on the vehicle frame and connected by universal joints to the ends of the counter-shaft proper. The transmission gears are cut from steel blanks forged in the form of

construction; the sub frame, carrying the motor and transmission, is of steel. This sub frame is dropped below the main frame in the usual manner.

The Reber car is manufactured by the Acme Motor Car Co., of Reading, Pa., which succeeds the Reber Mfg. Co., and which recently applied for a charter with \$200,000 authorized capital. The officers are: President, George D. Horst; treas-



REBER 12-HORSEPOWER TOURING CAR WITH VERTICAL MOTOR.

urer and general manager, James C. Reber. The company has recently bought the former Reading plant of the American Bicycle Company and plans are already well formulated for building automobiles on a large scale.

Burning of Racine Boat Plant.

In addition to destroying the several buildings and the machinery of the Racine Boat Mfg. Co.'s plant at Racine, Wis., the fire of May 31 consumed 150 launches valued at \$400 each, 250 row boats worth \$40 each, a fifty-foot steel yacht which was being constructed for the United States government, whose value is estimated at \$5,000, another steamer for the government worth \$3,000 and four cabin boats worth \$1,700. A number of plans for various craft were also destroyed. The cause of the fire is unknown, but it originated in the two-story frame boiler and engine house. The insurance amounts to only \$62,000. The company has not made definite plans with regard to rebuilding the plant and it is stated that inducements have been offered by other cities for a change of location. Racine will endeavor to retain the plant, however, and every effort will be made to induce the company to rebuild on the old site.

At the time the fire broke out, A. C. Frank, one of the heaviest stockholders and general manager, was taking a Sunday outing at Eagle Lake, about thirty-six miles distant. Alexander Horlick, who is the owner of a large and speedy machine, volunteered to go after the manager and bring him to the fire. It is said that he made the run to the lake and back in less than two hours. The run is a record breaker for that section of the State.

The Racine Boat Manufacturing Company was organized in 1893 with a capital stock of \$7,500. It has grown rapidly and its business has steadily increased. Only a few days before the fire a \$20,000 yacht was shipped to E. B. Moore, of Chicago, and other yachts worth \$20,000 in the aggregate were also sent to their owners.

Manager Frank is desirous of having the plant rebuilt on its site if practical plans can be secured, but as it is contemplated to erect a much larger plant than the old one, it may be necessary to secure larger space.

News and Trade Miscellany.

More than 125 Oldsmobiles are reported to have been sold in Buffalo this season by the W. C. Jaynes Automobile Company.

Hetty Green has bought a \$12,000 electric barouche in which she takes daily rides on the Jersey turnpikes around Morristown.

Washington, D. C., has a new storage station at 1310 L street, N. W., conducted by the Automobile Storage and Repair Co.

Harlan W. Whipple, of the A. C. A. race committee, is to spend two months touring the New England States in his new Mercedes car.

Dr. C. W. Russell, of Springfield, O., is planning to get into the business with a light machine of the gasoline type, which he has recently perfected.

A new corporation at Chicago is called the Charles Kaestner Manufacturing Company, for the building of automobiles and motor cycles. Capital, \$50,000.

Lancaster, Pa., is to have a new enterprise, known as the Conestoga Automobile Company. About 500 men are to be employed. The \$50,000 capital has all been subscribed.

The Auto-Car Company, of New York, was incorporated at Albany, May 27, with a capital stock of \$30,000. Directors are: Bernard Uhren, John Lurie and J. J. Head, of New York.

The Videx Automobile Company has filed articles of incorporation at Newark, N. J. It will manufacture and sell steam, electric and gasoline automobiles. Capital stock is \$1,000,000.

A. S. Krotz, of Springfield, O., has been experimenting for some time with electric vehicles, and is now about ready to market machines equipped with a condensed storage battery of his own invention.

At Alva, Okla., the township trustees have assessed a tax of fifty cents on the dollar on first cost of automobiles, although there are none there to tax. Second class mules escape with an assessed value of \$25 to \$100.

The manufacture of automobiles is the object of the Royal Automobile Co., which has been incorporated with authorized capital of \$250,000 at Trenton, N. J., by Louis B. Dailey, Warren N. Akers and K. K. McLaren.

The Waverley factory is to have a new downtown retail store in Indianapolis. S. W. Elston, local representative, has succeeded in interesting several local capitalists in the venture, and a company recently incorporated will put masons and carpenters at work at once. The company has secured a fifteen year lease on the property at Scioto and Vermont streets. The new plant will be the first business building in this aristocratic quarter.

Charles E. Woods, formerly of the Woods Electric Vehicle Company, has taken over the management of the Metropolitan Motor Car Company, at 154 East Fifty-seventh street, New York, and in the future will build electric business vehicles exclusively.

The General Automobile & Mfg. Co. is building a light racing machine and evidently has designs on some of the 1,000-pound class races to be held in Ohio and Michigan this summer. The body of the car is egg-shaped and the entire outfit weighs less than 900 pounds.

The Pioneer Automobile Co., 54-56 43d street, New York, has recently increased its floor space and is now prepared to store additional automobiles. The capacity is now 120 carriages. This company, which has the Stevens-Duryea agency, reports rapidly increasing sales for this popular vehicle.

The New York & New Jersey Automobile Company has filed papers for registration in New York. Its principal office is at Elberon, N. J. Object, storage and repair of automobiles. Capital, \$20,000. A building is being erected which will accommodate 150 vehicles and 100 gasoline cars.

A difference of opinion between John Taulty, who drives a Toledo touring car, and Herbert Cheney, who runs a Winton, has led to the arranging of a race between them from Toledo to Chicago and return, to be pulled off as soon as the weather permits. The stakes are \$500 a side, and forfeits have been posted.

A large gasoline omnibus has been running on several experimental trips from the Parker House, in Boston, out through the park system. The vehicle is of the same pattern and type used for the past year in regular transportation service in Chicago, and intent is to get Boston capitalists to back a line in the Hub.

Machinery for the manufacture of automobiles has been installed by Caps Brothers, printing machinery manufacturers, in Kansas City, who have increased their capital stock from \$35,000 to \$75,000, and will soon be devoting most of their time to the new enterprise. When fully established the new plant is expected to have a capacity of one automobile a day.

Cleveland is to have another magnificent garage, the indications being that it will be finer than any of the establishments already in operation. Architects Blackall & Page have prepared plans for the building, which they state will be located on Superior street between Murison and Dodge, but they decline to divulge the name of their clients. According to the plans prepared, the building will be seven stories high and stand on a lot 50 by 165 feet.

One of the attractive features of the centennial celebration to be held in Youngstown, Ohio, on July 4 will be a parade of automobiles. There are at least 100 machines of various kinds in Youngstown, Warren and other neighboring towns, and it is proposed to have as many as possible in line. There is talk of inviting the Cleveland Automobile Club to make a club run there on that day and have all the members participate in the parade.

Horace Brock, of Lebanon, N. Y., and Robert Brock, of Philadelphia, passed through Cleveland recently from Atlantic City en route to Colorado Springs, Cal., in a Winton touring car. They left the Atlantic Coast three weeks before and are proceeding leisurely. They visited the Winton factory and reported that the machine had given excellent satisfaction. The severe rains have made the roads through Ohio almost impassable, marring the pleasure of the trip considerably.

The Corbin Motor Vehicle Corporation, of New Britain, Conn., has incorporated with a capital stock of \$200,000. F. N. Manross and Judge E. Peck, of Bristol, have been made directors. This company will manufacture Bristol automobiles on the lines of one that was first built by Manross in his Forestville factory and finished at Plainville. The new company is reported to have secured a license from the Association of Licensed Automobile Manufacturers.

There have been numerous reports of late to the effect that the Peerless Motor Car Company was planning to remove its plant to Canton. H. L. Kittredge, general manager of the company, when seen with reference to the report, said that while it was true the business had outgrown the present facilities there is absolutely no truth in the statement that the company is contemplating removing from Cleveland. On the contrary, the company expects to enlarge its present plant and has purchased property adjoining the factory. Plans are under consideration for a large and modern building and equipment, which will enable the company to greatly increase its production.

The Moyea Automobile Co., having decided to establish a repair and storage department in connection with its manufacturing business, has, pending the completion of a large new building, rented the premises at 132 West 49th Street, New York, formerly occupied by the Empire Auto Repair & Storage Co. It has also secured the services of the former manager of the Empire garage and will be able to make repairs at the above address to foreign as well as American built machines. It will be the endeavor of the Moyea Company to have the standard of workmanship as high as that in the cars it is now manufacturing and selling at its factory in Pittsfield, Mass.

Preliminary steps have been taken for organizing a club in Nashville, Tenn.

An ordinance was passed in Akron, O., on June 15, limiting the speed of automobiles to ten miles an hour in the city limits.

At Evanston, Ill., the penalty for violating the eight-mile speed ordinance has been increased from \$5 to \$25, as formerly, to from \$10 to \$200.

King Edward VII, when recently in Paris, ordered a double phaeton Darracq with Védive body, curved glass front and revolving fauteuil seats.

Recently elected members to the Association of Licensed Automobile Manufacturers include the E. R. Thomas Motor Co., of Buffalo, and the Elmore Mfg. Co., of Clyde, Ohio.

In Philadelphia the City Solicitor holds that owners of automobiles are not required to take out separate licenses to comply with the State law and the city ordinance.

The president of the Board of Public Service of Toledo, O., has suggested to the Mayor that an ordinance be passed by the City Council requiring the licensing and numbering of automobiles.

A fund of 4,000 francs has been gathered by subscription among French motorists for Baron de Pallange, who is recovering from the accident on La Turbie road, in which Count Zborowski was killed.

In accordance with a new ruling in Philadelphia, the driver of an automobile desiring to cross the Delaware River on a ferry boat must shut off all power and push or pull the vehicle on board.

The City Council of Augusta, Ga., has passed an ordinance regulating the speed of automobiles within the city limits to ten miles an hour. A bond of \$500 is required from the owner of each machine for the privilege of using the streets.

William Mason Turner, of New York, has leased the new automobile show room of the Newport Engineering Works, at Newport, R. I., where there will be for immediate delivery Ajax electric runabouts and delivery wagons and White steam tonneau cars.

Oliver H. P. Belmont, of Hempstead, L. I., has recently purchased a handsome French limousine car, fitted with a good-sized table, which can be dropped down for serving luncheons. It is also equipped inside with electric lights. The machine has high speed possibilities.

L. C. Boardman, third vice president of the New York and Chicago Road Association, was in Cleveland last week to give an illustrated lecture on the subject of an improved highway from New York to Chicago. It is intended to establish a branch association in Cleveland as well as in other towns along the proposed route, in order that the movement may be pushed in the various districts.

W. E. Metzger, of Detroit, who was married on June 10, is making his way leisurely toward New York, with his bride, from which city they will sail for Europe in the near future. On June 18, they were in Buffalo, the guests of W. C. Jaynes, who is widely known in automobile circles.

The Victor Automobile Storage Station soon to be opened at 147-149 West Fifty-fifth Street, is one of the latest garages in New York city. The entire double building of three stories has a floor space of 17,000 square feet. The charging board is capable of supplying 35 electric vehicles.

The Wheel-Within-Wheel Company has been reorganized and incorporated as the Conestoga Automobile and Wheel Company, of Lancaster, Pa., with \$500,000 capital stock. Preparations are being made to increase the facilities for manufacturing the spring wheel for automobiles known as the "wheel-within-wheel."

In view of the fact that W. K. Vanderbilt, Jr., is to return to Newport in August, it is quite probable that a successful race meet will be held there about the first week in September. The only available track is that at Aqueduct Park, three miles out of Newport. It is not a very fast course, owing to the size of it—one-half mile.

Articles of incorporation of the Bassett Motor Vehicle Company, of Washington, D. C., have been filed by Charles W. Embrey, James A. Black and Virgil M. Fookes, of Washington, D. C.; Roswell S. Couch, of Greenfield, Mass., and Linton T. Bassett, of Holyoke, Mass., who will constitute the board of trustees for the first year. The capital stock is \$2,000,000. The following officers have been elected: R. S. Couch, president; L. T. Bassett, treasurer, and H. R. Walker, secretary. The main office of the company will be in Washington.

Five 1903 Model F Packard touring cars were shipped by express in a horse car to San Francisco from the Warren (Ohio) factory during the week of June 8. This is believed to break the record for an express shipment of automobiles. On other occasions one or two carloads have been expressed to New York and other Eastern points, but this is the first time that the Packard Motor Car Company has sent a shipment of five machines almost 3,000 miles by express.

One of the early surprises of the Newport season was sprung at a recent matinee performance in the Barnum & Bailey show. When the three chariots dashed out for the chariot race they were closely followed by a merry party in a white steam tonneau. Twice around the ring they raced neck and neck, the automobile throwing clouds of sawdust in the air as it was guided with skill around the turns. The machine won out by fifty yards in the last circuit.

NO CESSATION IN THE ACTIVITY OF CLEVELAND MANUFACTURERS.

Special Correspondence.

CLEVELAND, June 20.—There seems to be almost no limit to the capabilities of the Winton Motor Carriage Co. for expansion. Although operating at the present time what is said to be the largest exclusive automobile factory in the world, the Winton people seem to think no more of putting up another building than many concerns do of changing a model. A contract has just been let for another structure, which will make the tenth in the big group of new buildings on the West Side facing the Lake Shore & Michigan Southern tracks.

F. X. Frantz, of the Sandusky Automobile Co., of Sandusky, was in Cleveland recently with one of his company's neat little road wagons. The car is one of the smallest ever seen here and attracted considerable attention. Mr. Frantz states that his company is now turning out an average of one vehicle a day and hopes soon to increase this output. The company has no agent in Cleveland and Mr. Frantz was looking up a man who had made inquiries for the machine. The report that Myron J. Caswell, superintendent of the Sandusky Automobile Co. had resigned to organize another company for the manufacture of automobiles, is declared to be untrue.

The General Automobile & Mfg. Co. has been trying out a new car which will probably be adopted as one of its regular line for another season. It is larger and heavier than the light, double cylinder car of this year, but will not rank with the largest cars now on the market. The General Company is now turning out from eight to ten machines a week. Nearly forty cars were shipped during the month of May. Plans are being made for increasing facilities, so that the output for another season will be much larger.

Gas Engine Hand Book.

The fourth edition of the "Gas Engine Handbook," by E. W. Roberts, M. E., was recently published by the Gas Engine Publishing Company, Cincinnati, O. The volume, which is of handy pocket size, bound in limp leather, comprises 264 pages, divided into twenty-five chapters, with an appendix devoted to two-cycle motors, and an addendum containing considerable information about automobile engines, this addition marking the chief difference between the present and previous editions. The book contains much information about the theory of explosion motors, describing special features of the design and construction of stationary gas engines, with hints on operation and maintenance. The author devotes considerable space to arguments in favor of two-cycle gasoline motors. "The Gas Engine Handbook," E. W. Roberts, M. E., the Gas Engine Publishing Company, Price, \$1.50.

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